

Please amend the application as follows:

IN THE TITLE

Please replace the current title, "ROUTING METHOD AND APPARATUS THAT UTILIZE DIAGONAL ROUTES," with "PROBABILISTIC ROUTING METHOD AND APPARATUS."

IN THE SPECIFICATION

Please delete the "Claim of Benefit to Prior Application" on page 1, lines 1-11, and insert therein a new Claim of Benefit to Prior Applications as follows:

--CLAIM OF BENEFIT TO PRIOR APPLICATIONS

This application is a continuation application of United States Patent Application entitled "Routing Method and Apparatus that Utilize Diagonal Routes," filed on December 7, 2001, and having serial number 10/013,819. This patent application also claims the benefit of the earlier-filed U.S. Provisional Patent Application entitled "Method and Apparatus that Utilize Diagonal Routes", having serial number 60/325,748, and filed 1/19/2001; U.S. Provisional Patent Application entitled "Routing Method and Apparatus", having serial number 60/314,580, and filed 8/23/2000; and U.S. Provisional Patent Application entitled "Routing Method and Apparatus", having serial number 60/337,504, and filed 12/6/2001--

Please delete the "Field of the Invention" on page 1, lines 10-12, and insert therein a new Field of the Invention as follows:

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--FIELD OF THE INVENTION

The invention is directed towards probabilistic routing method and apparatus.--

On page 5, lines 1-8, please delete the "Summary of the Invention", and insert therein a new Summary of the Invention as follows:

--SUMMARY OF THE INVENTION

Some embodiments of the invention provide a method of routing several nets in a region of a design layout. Each net includes a set of pins in the region. In some embodiments, the method partitions the region into several sub-regions that have a number of edges between them. The method (1) for each particular net and each particular edge, identifies an edge-intersect probability that specifies the probability that a set of potential routes for the particular net will intersect the particular edge, and (2) uses the identified edge-intersect probabilities to identify routes for the nets. A potential route for a particular net traverses the set of sub-regions that contain the particular net's set of pins.

In other embodiments, the method partitions the region into several sub-regions that have a number of paths between them. The method (1) for each particular net and